

plan2045 Base Year 2017 Socioeconomic Data Approval

RRTPO TECHNICAL ADVISORY COMMITTEE MEETING

November 13, 2018

Presentation by:

Sulabh Aryal, AICP
Senior Planner
RRPDC



plan2045

- *plan2045* is the next long-range transportation plan for the Richmond region which is a significant decision tool to guide how the RRTPO and its partners will meet the transportation needs of the Richmond region over the next 20 years.
- Changes in federal transportation regulations require *plan2045* to have as its foundation a **performance-based planning** focus.
- *plan2045* will apply a **systematic review of transportation system performance – past, present and possible future – to define the regions investment priorities.**
- Various Tools will be used for accessing transportation system performances – Congestion Management Process (CMP), Annual Performance Measures, Richmond Regional Bridge and Culvert Reports, EJ Accessibility Analysis and Regional Travel Demand Model (Richmond/Tri-Cities Model)

Richmond/Tri-Cities (RTC) Model

- The Richmond/Tri-Cities (RTC model) regional travel demand model will be a critical tool for assessing transportation system performance for *plan2045*.
- The RTC model will be used to identify future needs for the highway and transit network, and to evaluate the potential impact of investments.
- System Performance Measures: Volume/Capacity Ratio, Vehicles Miles Traveled, Vehicle Hours Traveled, Average Congested Speed by facility type, travel time improvements, transit ridership and accessibility improvements to major destinations.
- Scenarios – Investment/Growth Scenarios

Richmond/Tri-Cities (RTC) Model

- The RTC Model has a current Base year of 2012 and Future year of 2040.
- For ***plan2045*** the RTC model needs to be updated to a base year of 2017 and future year of 2045.
- RRTPO and Tri-Cities MPO are working with VDOT modeling staff and their consultant to update the RTC model. Model is scheduled to be completed by June 2019.

Socioeconomic Data (SE Data)

- The primary purpose of the Socioeconomic Data is to provide input into the Richmond Regional Transportation Planning Organization's Regional Travel Demand Model (The RTC Model).
- The Socioeconomic Data (SE Data) provides estimates and projections of population, employment and other socioeconomic data of the Richmond Region within small geographic areas called Transportation Analysis Zones (TAZs).
- The data is also used by local governments, regional and state agencies, and other organizations for a variety of demographic planning purposes since it provides estimates of demographic data at the TAZ level.
- Comprehensive economic development analysis, infrastructure planning on a local or regional basis, sustainability plans, or local comprehensive planning.

Socioeconomic Data (SE Data)

Technical Advisory Committee in their March 2018 meeting authorized the establishment of the **plan2045** Socioeconomic Workgroup. The establishment of this work group has occurred with the development of each long-range transportation plan and includes appointees from local government staff, VDOT, GRTC and DRPT who are qualified to confirm the required data input.

Schedule

Development of the Base-Year 2017 Socioeconomic Data

Timeframe: April-October 2018

SE Data Workgroup Approval – November 1, 2018

TAC Approval: November 13, 2018

Development of the Forecast Year 2045 Socioeconomic Data

Timeframe: November 2018 – March 2019

SE Data Workgroup Approval – Last Week of March (Targeted)

TAC Approval: April 2019

TPO Approval: May 2019

VDOT Submission Deadline: April 2019

Socioeconomic Data Analysis Report

Timeframe: April-June 2019

TAC Approval: June 2019

RRTPO Approval: July 2019

plan2045 SE Data Workgroup Members

Town of Ashland

Nora Amos
Will Tucker

Charles City County

Myles Busching

Chesterfield County

Catherine Bray

Goochland County

Jo Ann Hunter

Hanover County

David Maloney

Henrico County

Seth Humphreys

New Kent County

Kelli LeDuc

Powhatan County

Andrew Pompei

City of Richmond

Will Palmquist
Travis Bridewell

VDOT

Enhua Liu
Jasmine Amanin

DRPT

Tiffany Dubinsky

GRTC Transit Systems

Emily DelRoss

Crater PDC/Tri-Cities MPO

David Hyder

RRTPO/RRPDC Staff

Sulabh Aryal
Michael Weaver
Bilal Damaj

Base Year 2017 Data

Population and Housing

- Bottom up approach used.
- COs and Demos tracking by address.
- Established Total Housing Units
- Vacancy Rates (ACS, Census, Co-Star, Local Knowledge) to establish Households or Occupied Housing Units.
- Average Household Size (ACS, Census , Jurisdictional level, TAZ Level) to establish population in house holds
- Group Quarter Population – 2012 data as staring point. Local Knowledge and phone calls for updates.
- Household population and group quarter population added to get total population.
- TAZ data aggregated to Jurisdictional total. Jurisdictional data aggregated to get regional total.

Base Year 2017 Data

Population and Housing

Jurisdiction	Weldon Cooper Estimates 2017	SE Data Base Year 2017	Difference	% Difference
Charles City County	7,151	7,126	(25)	-0.35%
Chesterfield County	340,020	340,848	828	0.24%
Goochland County	22,705	23,536	831	3.66%
Hanover County	106,375	109,595	3,220	3.03%
Henrico County	324,395	335,283	10,888	3.36%
New Kent County	21,709	21,347	(362)	-1.67%
Powhatan County	29,166	29,147	(19)	-0.07%
Richmond City	222,853	224,798	1,945	0.87%
Total	1,074,374	1,092,103	17,729	1.65%

SE Data is through December 31, 2017

Weldon Cooper Estimates for July 1, 2017

Hanover County Includes Town of Ashland

Base Year 2017 Data

School and College Enrollment

- Fall 2017 Enrollment Numbers
- K-12 Public Schools - Virginia Department of Education, Jurisdiction School Board
- K-12 Private/Special/Other Schools – 2012 Database as the starting point, greatschools.org, local knowledge, phone calls.
- College and Universities – phone calls.

16.48% of the Regional Population attend K-12 Schools

	School Enrollment	
Jurisdiction	K-12	Colleges
Charles City	650	0
Chesterfield	62,779	20,985
Goochland	2,925	531
Hanover	18,226	1,418
Henrico	57,860	11,490
New Kent	3,336	100
Powhatan	4,635	0
Richmond	29,536	41,746
Total	179,947	76,270

Base Year 2017 Data

Employment

- Virginia Employment Commission (VEC) Second quarter 2017 data used as the primary source.
- 200-plus employers **attempted** for phone call/email verification.
- Employers aggregated into headquarters disaggregated into individual locations.
- Employee addresses geocoded, spatially joint and aggregated by TAZs.
- Employment broken down by Retail and Non-Retail
- For Modeling Purposes Employment broken down into 2-Digit NAICS Category (20 Categories).

Base Year 2017 Data

Employment

Jurisdiction	Employment 2017	% of Regional Employment
Charles City	1,668	0.30%
Chesterfield	131,120	23.81%
Goochland	13,966	2.54%
Hanover	50,625	9.19%
Henrico	191,240	34.73%
New Kent	3,956	0.72%
Powhatan	6,092	1.11%
Richmond	152,044	27.61%
Total	550,711	100.00%

Employment Type	Employment 2017	% of Regional Employment
Federal Government	10,855	1.97%
Local Government	45,099	8.19%
Private	461,111	83.73%
State Government	33,646	6.11%
Total	550,711	100.00%

Employment Type	Employment 2017	% of Regional Employment
Retail	121,941	22.14%
Non- retail	428,770	77.86%
Total	550,711	100.00%

Base Year 2017 Data

Automobile Registration

- Department of Motor Vehicles (DMV) Automobile Registration Data as the primary source.
- Aim - To get a database which only included registered motorized vehicle for personal use.
- We started by querying out the Garage Jurisdiction (the address where the vehicle registration is sent to the customer. If a post box was provided we also needed a physical address). We assumed that this address is where the vehicle is parked at night. If a vehicle is not registered or registered outside the region but is still parked at the address, we just ignore those.
- All non-motorized vehicles such as any type of trailers, chassis, hearse etc. were eliminated. Similarly customer type – “Individual” and Use type “ Personal” were only kept in the database. This filtered out fleets vehicles. Also vehicles with more than 2 Axles were filtered out.
- The data after all the different queries came out good. The registration addresses (almost 900,000 records for the Richmond region) were be geocoded, spatially joint and aggregated by TAZs.

Base Year 2017 Data

Automobile Registration

Total Automobiles – 883,402

0.88 Autos per person (household population)

Autos/ Household – 2.07

Base Year Data Summary

Jurisdiction ¹	Population			Housing			School Enrollment		Employment		
	In Households	In Group Quarters	Total Population	Housing Units	Households	Autos	K-12	Colleges	Total Employment	Retail	Non-retail
Charles City	7,126	0	7,126	3,328	3,044	8,672	650	0	1,668	96	1,572
Chesterfield	336,197	4,651	340,848	132,586	124,595	293,337	62,779	20,985	131,120	34,646	96,474
Goochland	22,812	724	23,536	9,679	8,981	23,485	2,925	531	13,966	1,360	12,606
Hanover²	106,677	2,918	109,595	41,706	40,247	97,794	18,226	1,418	50,625	12,969	37,656
Henrico	328,396	6,887	335,283	135,623	132,416	279,241	57,860	11,490	191,240	45,877	145,363
New Kent	20,740	607	21,347	8,389	8,008	21,868	3,336	100	3,956	948	3,008
Powhatan	27,150	1,997	29,147	11,022	10,442	29,566	4,635	0	6,092	1,577	4,515
Richmond	210,302	14,496	224,798	108,043	99,958	129,439	29,536	41,746	152,044	24,468	127,576
Total	1,059,400	32,280	1,091,680	450,376	427,691	883,402	179,947	76,270	550,711	121,941	428,770

¹ Includes all jurisdictions in Planning District 15 (i.e. TPO study area, rural areas, and Tri-Cities Area MPO portion of Chesterfield).

² Includes the Town of Ashland

Base Year Data Approval

plan2045 SE DATA WORKGROUP RECOMMENDATION: *plan2045* Socioeconomic Data Workgroup approved the 2017 Base Year Data at the Traffic Analysis Zone (TAZ), Jurisdictional and Regional levels and recommends that the RRTPO Technical Advisory Committee (TAC) approves the data as it is presented to be used in the Richmond/Tri-Cities (RTC) Model update process.

STAFF RECOMMENDATION: RRTPO staff concurs with the *plan2045* Socioeconomic Data Workgroup recommendations.

TAC ACTION REQUESTED: The TAC is requested to approve the 2017 Base Year Data at the Traffic Analysis Zone (TAZ), Jurisdictional and Regional levels as it is presented to be used in the Richmond/Tri-Cities (RTC) Model update process.

Thank You!

Sulabh Aryal, AICP
Senior Planner
saryal@richmondregional.org



9211 Forest Hill Ave., Suite 200
Richmond, VA 23235
Phone: (804) 323-2033

www.richmondregional.org